



Certificate of Mailing 37 C.F.R. §1.8(a): I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name of Person Signing Certificate: Tara L. Coster
Date: 9/6/05 Signature: [Signature]

MAIL STOP AMENDMENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of: :
Michael J. Pollack :
Conf. No.: 3586 : Group Art Unit: 2613
Appln. No.: 10/058,658 : Examiner: Richard J. Lee
Filing Date: January 28, 2002 : Attorney Docket No.: G0623-0670U1
Title: MONITORING SYSTEM FOR HOSTILE ENVIRONMENT

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(c)(1)

Attached is the Information Disclosure Citation Form PTO/SB/08A, which lists documents that may be material to the patentability of this application and/or for which there may be a duty to disclose in accordance with 37 C.F.R. §1.56.

The filing of this Information Disclosure Statement shall not be construed as an admission that any of the listed documents constitutes prior art, or as an admission against interest in any manner.

In accordance with the change to § 1.98 effective October 21, 2004, only copies of foreign patents and non-patent literature references cited herein, if any, are enclosed. However, copies of the cited U.S. patents and patent application publications will be provided upon request. In accordance with the official waiver posted September 21, 2004, wherein the U.S. Patent and Trademark Office officially waives the requirement under 37 C.F.R. § 1.98(a) for submitting copies of co-pending applications subject to image file wrapper (IFW) filed after June 30, 2003, respectively, we have not included copies of such cited co-pending applications subject to IFW, but copies will be provided on request.

Adjustment date: 03/10/2008 SEELEKE1
01/27/2006 PZIMMERM 00000006 503541 10058658
01 FC:1806 180.00 CR

01 FC:1806 180.00 CR
01/27/2006 PZIMMERM-00000006-503541 10058658
United States Patent and Trademark Office
- Sales Receipt -



ATTORNEYS AT LAW • A PROFESSIONAL CORPORATION

1810 Chapel Avenue West
Cherry Hill, NJ 08002
TELEPHONE: (856) 661-1900 • FACSIMILE: (856) 661-1919
E-MAIL: diana.bolster@flastergreenberg.com

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted
to the U.S. Patent and Trademark Office on the date shown below

Diana L. Bolster

Type or print name of person signing certification

A handwritten signature in cursive script, appearing to read "Diana L. Bolster".

Signature

2/14/06

Date

FACSIMILE COVER SHEET

ATTN: REFUNDS

FAX No.: 571-273-6500

Group Art Unit: 2613

Date: February 14, 2006

From: Lynda L. Calderone

FAX Operator: Diana L. Bolster

Re: U.S. Patent Application No. 10/058,658

Title of All Paper(s) sent via Facsimile: OPTICAL MONITORING SYSTEM FOR HOSTILE
ENVIRONMENT

Time: 4:15 pm

Flaster/Greenberg File No: G0623-670U1

Page 1 of 2 pages

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CONTACT
Diana at 856-382-3302

Message:**Confidentiality Notice**

The information contained in this fax message is intended only for the personal and confidential use of the designated recipient(s) named above. This message may be an attorney-client communication, and as such is privileged and confidential. If the reader of this message is not the intended recipient or agent responsible for delivering it to the intended recipient, you have received this message in error, and any review, distribution, or copying of this message is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return the original message to us by mail. Thank you.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:	Patent Application of Michael J. Pollack et al.	ATTN: REFUNDS
Conf. No.	3856	Group Art Unit: 2613
Appln. No.:	10/058,658	Examiner: Richard J. Lee
Filed:	January 28, 2002	Attorney Docket No. G0623-670U1
For:	OPTICAL MONITORING SYSTEM FOR HOSTILE ENVIRONMENT	

REFUND REQUEST

In reference to the above-identified patent application, please note Applicants filed an Information Disclosure Statement ("IDS") with the United States Patent and Trademark Office ("PTO") on September 6, 2005 under Rule 37 CFR 1.97(c)(1) along with a certification under Rule 1.97(e)(1) that the reference(s) cited were made known to the Applicants in a PCT Search Report dated within three months of the filing of the IDS. However, while the PTO/SB/08A forms list the correct European Search Report, the international counterpart PCT Application No. PCT/US02/02335 is inadvertently listed in the body of the IDS. The European Search Report, which Applicants submitted, and in which the prior art was cited, was in fact dated June 6, 2005, within three months of the IDS.

Prior art may be submitted when cited within three months of a foreign search report, such that applicants believe that the \$180 IDS late fee should not apply. After reviewing our monthly Deposit Account Statement (a copy of which is attached hereto with the charge at issue highlighted), it appears that the account was charged the \$180.00 late IDS fee. Copies of the Information Disclosure Statement, as filed, as well as the European Search Report and our deposit account statement are attached for your review. As noted, the Certificate of Mailing on the IDS indicates that the IDS was filed September 6, 2005, three months after the European Search Report date of June 6, 2005. To correct the record, Applicants herein certify that under 37 CFR 1.97(e)(1), the references cited in the IDS of September 6, 2005 were first cited in a European Search Report dated June 6, 2005, which was enclosed with the IDS of September 6, 2005.

In view of the foregoing, Applicants thus, respectfully requests at this time that a refund of \$180.00 be applied to the deposit account of Flaster/Greenberg P.C., Deposit Account No.50-3541.

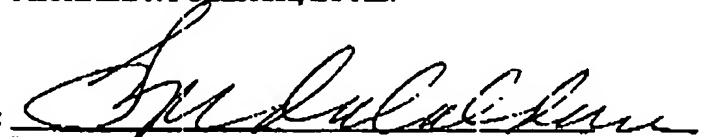
Respectfully submitted,

MICHAEL J. POLLACK, ET AL.

2/14/06

Date

By:



Lynda L. Calderone

Registration No. 35,837

Flaster/Greenberg P.C.

1810 Chapel Avenue West

Cherry Hill, New Jersey 08002

Telephone: 856-661-1900

Facsimile: 856-661-1919

Direct Dial: 856-382-2206 or 215-279-9375

E-Mail: lynda.calderone@flastergreenberg.com

LLC:dlb
Enclosures



**United States
Patent and
Trademark Office**

USPTO
Home
Page

Finance
Online
Shopping
Page

Deposit Account Statement

Requested Statement Month: January 2008
 Deposit Account Number: 503541
 Name: FLASTER/ GREENBERG PC
 Attention: LYNDA CALDERONE, ESQ.
 Address: 1810 CHAPEL AVENUE WEST
 City: CHERRY HILL
 State: NJ
 Zip: 08002
 Country: UNITED STATES OF AMERICA

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
01/04	137	11257535	10114-62US	2051	\$85.00	\$8,437.00
01/09	1	80641988		1463	\$200.00	\$6,237.00
01/10	159	11257535	10114-0125/62U2	8021	\$40.00	\$6,197.00
01/12	1	PCT/US06/00534	10114-0141WO	1801	\$300.00	\$5,897.00
01/12	2	PCT/US06/00534	10114-0141WO	1802	\$1,000.00	\$4,897.00
01/12	3	PCT/US06/00534	10114-0141WO	1702	\$1,086.00	\$3,811.00
01/12	4	PCT/US06/00534	10114-0141WO	8007	\$20.00	\$3,791.00
01/12	6	E-REPLENISHMENT		9203	-\$1,209.00	\$5,000.00
01/17	52	10058658	200285.0689	1252	\$450.00	\$4,550.00
01/20	52	11333923	S0908-1U1	2011	\$150.00	\$4,400.00
01/20	53	11333923	S0908-1U1	2111	\$250.00	\$4,150.00
01/20	54	11333923	S0908-1U1	2311	\$100.00	\$4,050.00
01/20	55	11333923	S0908-1U1	2202	\$50.00	\$4,000.00
01/23	38	10257928	MBP-018XX	2253	\$510.00	\$3,490.00
01/25	54	E-REPLENISHMENT		9203	-\$1,510.00	\$5,000.00
01/27	8	10058658	200285.0689	1806	\$180.00	\$4,820.00

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
\$6,502.00	\$4,401.00	\$2,719.00	\$4,820.00

Need Help? | [USPTO Home Page](#) | [Finance Online Shopping Page](#)

Certificate of Mailing 37 C.F.R. §1.8(a): I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name of Person Signing Certificate:

Tara L. Carter

Date

9/6/05

Signature

Tara L. Carter

MAIL STOP AMENDMENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICEIn Re Patent Application of:
Michael J. Pollack

Conf. No.: 3586

Group Art Unit: 2613

Appln. No.: 10/058,658

Examiner: Richard J. Lee

Filing Date: January 28, 2002

Attorney Docket No.: G0623-0670U1

Title: MONITORING SYSTEM FOR HOSTILE ENVIRONMENT

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(c)(1)

Attached is the Information Disclosure Citation Form PTO/SB/08A, which lists documents that may be material to the patentability of this application and/or for which there may be a duty to disclose in accordance with 37 C.F.R. §1.56.

The filing of this Information Disclosure Statement shall not be construed as an admission that any of the listed documents constitutes prior art, or as an admission against interest in any manner.

In accordance with the change to § 1.98 effective October 21, 2004, only copies of foreign patents and non-patent literature references cited herein, if any, are enclosed. However, copies of the cited U.S. patents and patent application publications will be provided upon request. In accordance with the official waiver posted September 21, 2004, wherein the U.S. Patent and Trademark Office officially waives the requirement under 37 C.F.R. § 1.98(a) for submitting copies of co-pending applications subject to image file wrapper (IFW) filed after June 30, 2003, respectively, we have not included copies of such cited co-pending applications subject to IFW, but copies will be provided on request.

Application Serial No.: 12,558,658
Information Disclosure Statement

This Information Disclosure Statement is pursuant to 37 C.F.R. § 1.97(c)(1) and is being filed before the mailing of a final action, before a notice of allowance and before any other action that closes prosecution of the above-identified application and includes a statement under 37 C.F.R. § 1.97(e)(1).

Statement Under 37 C.F.R. § 1.97(e)(1)

Each item of information contained herein was first cited in a communication from a foreign patent office or in an international PCT application in counterpart foreign/PCT Application No. PCT/US02/02335 on June 6, 2005, not more than three months prior to the filing of this information disclosure statement.

While no fee is believed necessary, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayments to Deposit Account No. 50-3541.

It is respectfully requested that this Information Disclosure Statement and the documents listed on the attached Form PTO/SB/08A and/or B be considered and acknowledged by the Examiner in connection with the above-identified patent application, be made of record therein, and that the listed documents be cited in the issued patent.

Respectfully submitted,

Greene, Tweed & Company, Inc.

7/6/05
(Date)

Tara L. Custer
Tara L. Custer
Registration No. 51,019
FLASTER/GREENBERG P.C.
Commerce Center
1810 Chapel Avenue West
Cherry Hill, NJ 08002
Telephone No.: (856) 661-1900
Fax No.: (856) 661-1919
Direct Dial: (856) 661-2204
E-Mail: tara.custer@flastergreenberg.com

LLC:TLC
Attachments: Form PTO/SB/08A (1 page)

PATENT SPECIFICATION

1,042,179

1,042,179



Date of Application and filing Complete
Specification: September 20, 1963.

No. 37102/63

Application made in France (No. 910073) on September 21, 1962.

Complete Specification Published: September 14, 1966.

© Crown Copyright 1966.

Index at Acceptance:—H4 F (2EX5, 5A); G6 C2K; H4 T1.

Int. Cl.—H 04 n 5/16 // G01r, G21.

COMPLETE SPECIFICATION

DRAWINGS ATTACHED

Improvements in Television Cameras

We, COMPAGNIE FRANCAISE THOMSON-
HOUSTON, a French Body Corporate of 173
Boulevard Haussmann, Paris 8ème, France,
do hereby declare the invention, for which
we pray that a patent may be granted to us,
and the method by which it is to be per-
formed, to be particularly described in and
by the following statement:—

The present invention relates to improve-
ments in television cameras, and more par-
ticularly to those which may be used in sur-
roundings at a high temperature.

Industrial television cameras permit the
observation of phenomena in different media
where direct observation of the phenomena
is difficult. Examples are submarine tele-
vision, medical television, etc.

In some cases, the televising takes place
in surroundings at a high temperature; for
example when making observations of the
interior of furnaces.

The use of television cameras in a high
temperature medium raises problems in rela-
tion to the electronic components and in-
ternal connections utilised. Although various
of the electronic components, such as resis-
tors, capacitors, or tubes, may be used over
a wide temperature range, this is not true of
the camera tube, which cannot easily be sub-
jected to a temperature greater than 60°C.
This being so, it is therefore necessary to pro-
vide an appropriate cooling arrangement to
keep the whole of the camera apparatus and
in particular the analyzer tube at a permissible
temperature. In the case of fixed installa-
tions, this arrangement may consist of a
system of pipes for circulating a coolant
fluid around the camera. It is also possible
to use cooling plates making use of the
Peltier effect. However in both these cases
the cooling installation is cumbersome, heavy
and fairly expensive.

The heat given off internally by the elect-

ronic components assists in heating the
camera when it is in a medium which is
already at a high temperature, so that it is
necessary to provide a cooling arrangement,
as mentioned above, in addition to heat in-
sulation. Where the camera is cooled by the
circulation of a fluid, such as water, for
example, there is always a danger of leakage,
which has to be avoided where the camera is
to be used in a medium which would be
modified by the fluid.

The problem of providing a camera with a
suitable cooling arrangement becomes par-
ticularly complicated when it is a mobile
camera without a circulating cooling system.

The scene is usually televised along the
optical axis of the camera. When it is to be
televised laterally, say at right angles, it is
necessary to use a special optical device.

The object of the present invention is to
provide a television camera enabling the
aforementioned difficulties to be reduced or
overcome, which is largely self-contained and
which is suitable for use in surroundings at
a high temperature.

Accordingly the present invention con-
sists in a television camera assembly com-
prising a double-walled jacket forming a
reservoir for a coolant fluid, the jacket en-
housing a sealed enclosure in which is located
the operational apparatus of the camera, ex-
pansion of the coolant fluid in the jacket pro-
ducing a cooling of the walls of the latter and
of the said enclosure, this cooling permitting,
during the period of existence of the fluid
in said reservoir, maintenance of the camera
apparatus at a controlled operating tempera-
ture in a high temperature environmental
medium, the said coolant jacket and camera
apparatus in the enclosure being removable
and replaceable with respect to, and in-
dependently of, each other.

When the camera is used in a gaseous

BEST AVAILABLE COPY

atmosphere exposed to nuclear radiation, it is essential that the coolant fluid used does not modify the characteristics of the surrounding atmosphere should it vaporise out of the camera.

According to a feature of the invention, therefore, when the camera is used in a gaseous environment exposed to nuclear radiation, the coolant fluid used has where possible, the same nature as the gas surrounding the camera, with an escape valve, being provided for directly evacuating the gas produced by the expansion into the gaseous environment which has the same chemical composition.

The invention will now be further described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 shows a section through the whole of one embodiment of camera apparatus constructed in accordance with the present invention; and

Figure 2 shows a partial section through an alternative embodiment of the camera according to the present invention.

The camera assembly shown in Figure 1 may be divided up into two parts: namely the operational part of the television camera, and a part comprising the cooling arrangement, in the form of a cylinder containing the coolant fluid, surrounding the operational part.

The operational part is contained in a metal tube 22, having dimensions determined by the diameter of the camera tube 1, by the volume required by the coolant fluid contained in the cooling arrangement and by the maximum outer dimensions of the camera assembly. This tube 22, is sealed and contains the camera tube 1, which may, for example, be of the 'Vidicon' type, and behind which is arranged an electronic amplifier 2, connected by a connection assembly 3, to a sealed connector 4. The front part also comprises a lens 8. The optical members are completed by a lighting system 10 and a fixed reflecting conical surface 14, both of which may be disassembled.

Although the following and other details do not form an essential part of the invention claimed, they are given by way of additional explanation of the uses to which a camera incorporating features according to the present invention may be put.

In practice, the subject of observation is usually an object such as a wall part of a sheath of a fuel element located at right angles to the optical axis of the camera lens 8. The object is thus observed through a conical mirror 6.

The object AB illustrated is an annular sheath portion 19, with a generatrix depending on the distance of the wall surface to be examined and the focal length of the lens used. For a given distance of the wall, it is

of course possible to obtain an image with a longer generatrix by using a lens with a shorter focal length. An example of a suitable lens is one with a focal length of 35 mm. Of course the image A'B' is anamorphosed owing to the effect of the conical mirror but this is of no importance. In practice, even, any longitudinal cracks observed will be enlarged in width.

The lens assembly 8 is protected by a cut transparent quartz disc 9 sealing the tube 22.

The image AB arrives at the conical mirror 6 after passing through an optical cut glass ring 20 welded to two metal mounting rings. Small low-voltage lamps 10 are arranged in front of the mirror 6 and light up the wall surfaces of the sheath 19. Since the optical part (numbered generally 14 and including mirror 6, lamps 10, and glass ring 20) is fragile, it is protected from impact in operation by an appropriate device such as a circular dish 18 provided on the cooling arrangement 13 and fixed, for instance, by metal rods.

The cooling arrangement, i.e. the other part of the assembly, is constituted by a double-walled heat-insulating vessel 13 of polished stainless steel, argon welded, the air being evacuated from the annular parts 12 between its walls. This vessel which is for example, of 4 litres total capacity, contains liquid carbonic anhydride (CO₂) which is introduced into the interior 11 of the vessel by a filler valve 16. The liquid CO₂ expands through metal valves 15, fixed at the rear of the vessel near the connector 4 of the connecting cable 5, directly into the sheath under observation. The valves 15 comprise a suitable mechanism whereby fluid exhaust from the vessel 13 is automatically controlled depending on the external pressure of the medium around the said vessel. The expansion of liquid CO₂ causes a powerful cooling of the walls of the vessel. This cooling effect acts in turn on the operational part of the camera inside the vessel and keeps the temperature of the camera at a permissible operational level.

The metal tube 22 enclosing the operational part is inserted as a single assembly into the heat-insulating vessel, which has been filled with the coolant fluid, and a circular nut 17 locks it from behind. As these two parts are very quickly disconnected or assembled, a number of coolant vessels may conveniently be filled before use of the assembly so as to allow for observation over a longer period with only the short interruptions necessary to replace a 'spent' vessel.

The camera assembly is held in the axis of the sheath by guide springs 7 of stainless steel or by any other suitable arrangement, such as rollers, for example, allowing for accurate focussing over the entire length of the sheath.

BEST AVAILABLE COPY

1,042,179

3

The camera described above, although shown in Figure 1 in a horizontal sheath, is particularly intended for use in vertically disposed nuclear reactor sheaths in which the carbon dioxide gas circulates from the bottom to the top at a considerable rate, viz. from several meters to several dozen meters per second, and at very high pressure. It depends inside the sheath under its own weight, and is connected by its supply and suspension cable 3 to a suitable arrangement controlling its descent or ascent. If the temperature of the CO₂ gas is high (from 200°C to 400°C) and if the nuclear radiation of neutrons or of gamma rays is considerable, appropriate arrangements are made for the material piped in the camera to be subjected to this temperature and the various radiations without sustaining damage. Hence, special receptors requiring the various radiations, tetrafluoroethylene resin (such as 'Teflon' or 'Fluon')-armoured cables, (Trade Mark) and wires with special insulation, such as wires insulated with aliconised fibre-glass, etc. are used in the camera.

The foregoing description relates more particularly to a camera which is simple to operate and intended for a specialised use.

Figure 2 shows alternative embodiment of the camera, in which certain improvements and modifications have been made, making it possible to use it at a higher temperature and for a number of purposes. This camera is, however, based on the camera described above; only its front end differs and this will be described in detail.

In order to improve the quality of the image obtained, a vidicon scanner tube 1 of larger dimensions than the tube used in the aforementioned embodiment is used. This tube makes it possible to achieve greater definition of the image (700 to 800 points).

Since it is chiefly the front end of the vidicon scanner tube which needs cooling, the cooling arrangement described above has been modified, its rear end having a similar arrangement for supplying and exhausting the coolant to that previously described. The heat-insulating vessel has an evacuated space 12, a compartment 11 for the liquid CO₂ and an annular space 30 in which the liquid CO₂, which arrives through a pipe 3 in the form of an inner tube 31, communicating with 11, is evaporated and expands. This expansion inside the annular space 30 has an intense cooling effect. The gases then escape through a further pipe 5' in the form of an inner tube 32 communicating with the outside environment through a valve located close to the sealed electrical connector described above in relation to Figure 1. Since the annular space 30 surrounds the front end of the tube 1 it is more energetically cooled.

In order to make the camera suitable for use as a multi-purpose camera, the lens 8 has

been made dismountable through the front end of the tube containing the operational part of the camera. For this purpose, a dismounting nut forming a locking ring 27 is unscrewed, thus making it possible to remove the transparent sealing glass 9 and the lens-holder, which makes it possible to use lenses of different focal lengths. A focusing device is also provided. To this end, the lens carries a continuous sinusoidal groove 33 in which a fixed finger 34 is engaged. A gear 35 linked to the lens holder makes it possible to rotate the said lens-holder, and so, by virtue of the groove 33 and the fixed finger 34, to move the lens along its optical axis. A piston 29 fixed to a shaft which passes through the camera is controlled by a small step-by-step motor with a pawl and a control electromagnet (not shown in the drawing). The piston 29 engages the gear 35 and by rotating the holder by pulses, the focusing position of the lens is adjusted. After this has been set pulses are no longer sent. This method of tele-controlled adjustment makes it possible to prevent electrical interference during examination.

The field of vision is illuminated by low-voltage lamps 10 exchanged on the front end of the heat-insulating cylinder around the central optical opening.

The camera just described may be used for observation along the optical axis of the camera.

In order to allow for lateral examination, the front part of the camera is completed by a dismountable part 14 mounted on the heat-insulating vessel by screws 28. It comprises a revolving turret support 26 for a mirror 6 inclined at 45° and protected by a transparent glass face 20, 26. This turret is fixed to a gear 36 driven by the rotation of a gas turbine motor 23 and capable of being stopped in a desired position by an electromagnetic brake 25. The whole of the dismountable part 14 is protected in front by a cap 24 with an opening 37 through which carbon dioxide gas, being for instance, in forced circulation in a reactor sheath, may pass into the turbine motor 23.

There are two reasons for rejecting an electric motor as means for rotating the mirror. On the one hand, the temperature of the operational environment and on the other hand, interference caused by an electric motor, which would be likely to blur the image obtained by the camera tube.

Where the camera is specially intended for use in a nuclear reactor sheath through which a violent stream of CO₂ gas under pressure circulates at a high speed, the aforementioned gas turbine motor 23 is used. This prevents the intrusion of any troublesome interference upsetting the observation of the image produced. The interference produced by the tele-controlled electric brake

BEST AVAILABLE COPY

4

1,043,179

25 is not very troublesome and disappears as soon as this brake has stopped the rotating mirror and consequently it is held stationary so that detailed observation can be made.

5 The claimed features of the television camera described above make it also suitable for other purposes and of course for less rigorous operational conditions. Its shape makes it particularly well adapted for exploring pipes and the like.

10 Whilst particular embodiments have been described, it will be understood that various modifications may be made without departing from the scope of this invention.

15 WHAT WE CLAIM IS:—

1. A television camera assembly comprising a double-walled jacket forming a reservoir for a coolant fluid, the jacket embracing a sealed enclosure in which is located the operational apparatus of the camera, expansion of the coolant fluid in the jacket producing a cooling of the walls of the latter and of the said enclosure, this cooling permitting, during the period of existence of the fluid in said reservoir maintenance of the camera apparatus at a controlled operating temperature in a high temperature environmental medium, the said coolant jacket and camera apparatus in the enclosure being removable and replaceable with respect to, and independently of each other.

2. An assembly as claimed in claim 1, wherein the coolant fluid used is of the same

nature as a gaseous environment in which the assembly is located or to be located.

3. An assembly as claimed in claim 1 or claim 2 wherein a differential escape valve is provided for the coolant system to evacuate the gas produced by the expansion.

4. An assembly as claimed in claim 1, 2 or 3, wherein the coolant fluid is liquid carbonic anhydride.

5. An assembly as claimed in any previous claim wherein the jacket is a double-walled metal enclosure.

6. An assembly as claimed in any previous claim wherein a space existing between the double walls of the jacket is evacuated.

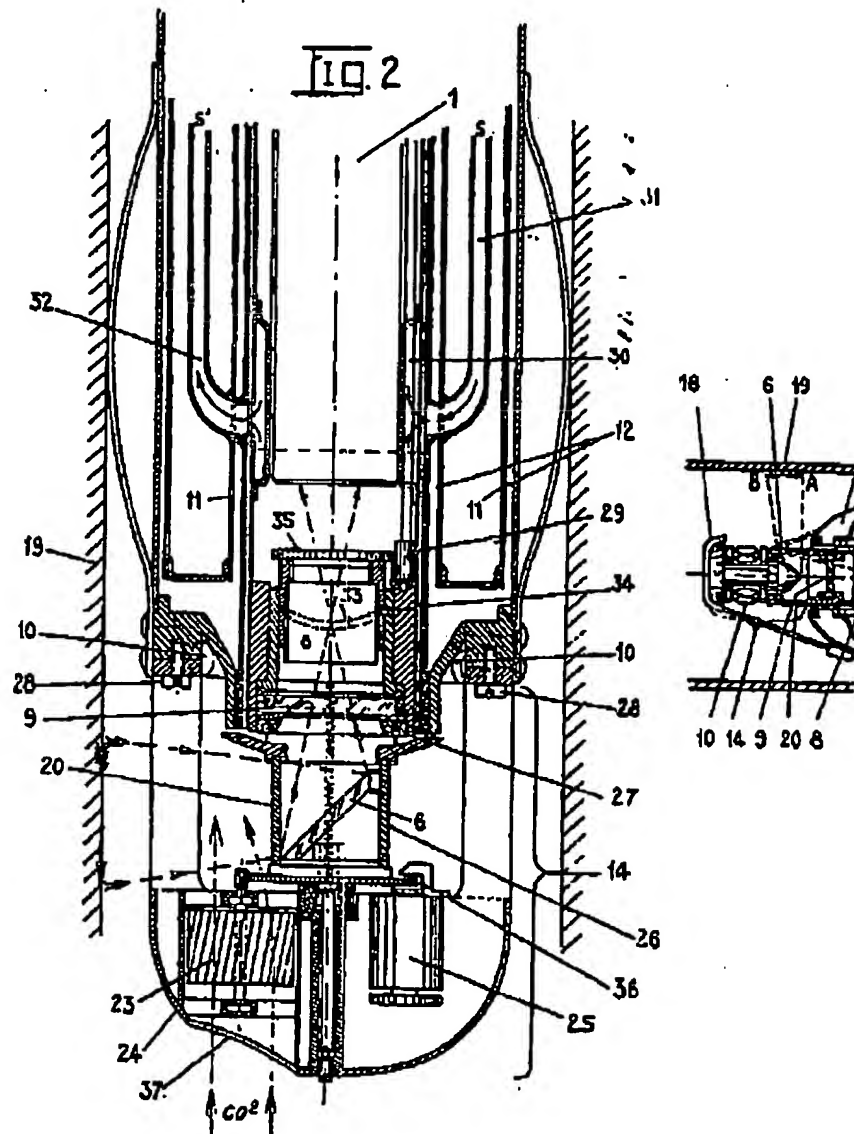
7. An assembly as claimed in any previous claim wherein the sealed enclosure is provided with an annular chamber through which the coolant fluid may pass to enhance cooling of the enclosure in the vicinity of the said chamber.

8. A television assembly substantially as herein before described with reference to Figure 1 of the accompanying drawings.

9. A television assembly substantially as hereinbefore described with reference to Figure 2 of the accompanying drawings.

BARREN & WARREN,
16, Kensington Square,
London, W.8.
Chartered Patent Agents.

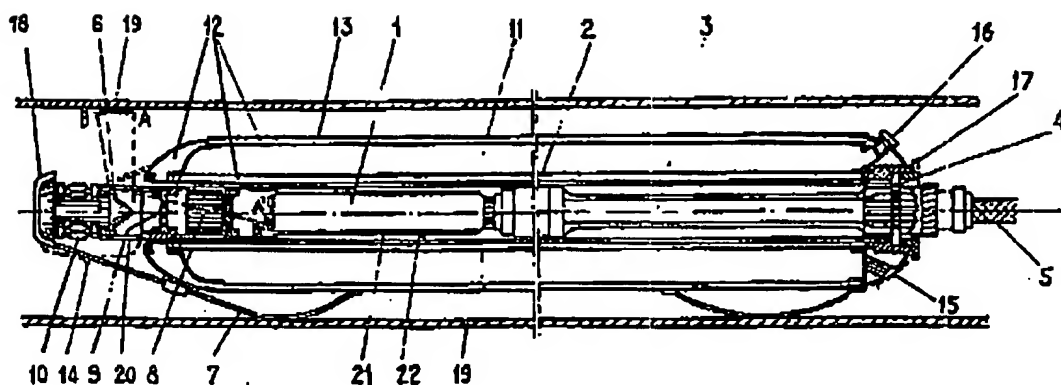
Berwick-upon-Tweed: Printed for Her Majesty's Stationary Office by The Tweeddale Press Ltd.—1966
Published at the Patent Office, 25 Southampton Buildings, London, W.C.2 from which copies may be obtained



4,042,179

COMPLETE SPECIFICATION

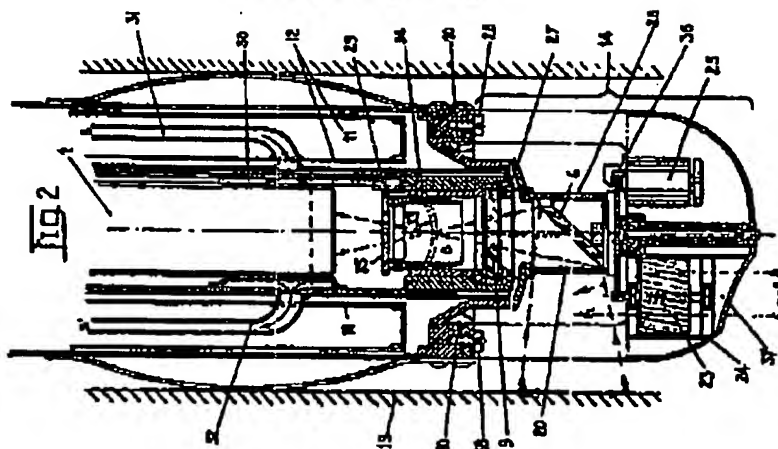
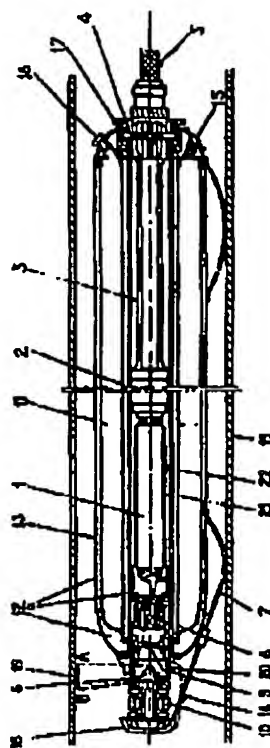
1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale.*Fig. 1

COMPLETE SPECIFICATION
This drawing is a reproduction of
the Original as a Patent Mark.

1042179
1 80037

Fig 1





FLASTERGREENBERG
2250 HV Pflanz (221)
D +31 70 340 2040
TX 31651 epo nl
FAX +31 70 340 3018

Europäisches
Patentamt
Zweigstelle
in Den Haag
Recherchen-
abteilung

European
Patent Office
The Hague
Search
Division

Office européen
des brevets
Département A
La Haye
Division de la
recherche

Fuchs Mehler Weiss & Fritzsche
Patentanwälte
Söhnleinstrasse 8
65201 Wiesbaden
ALLEMAGNE



Delivery Date
06.06.05

Zuschrift/Pat./Pkt. G0001 EP.	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 02703248.1-2202-US0202335
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire GREENE, TWEED OF DELAWARE, INC., et al	

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





European Patent
Office

**SUPPLEMENTARY
EUROPEAN SEARCH REPORT**

Application Number
EP 02 70 3248

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Incl. 7)
X	US 5 604 532 A (TILLMANN ET AL) 18 February 1997 (1997-02-18) * column 2, line 30 - line 58 *	1-14, 16	H04N5/225 G02B23/24 H04N7/18
Y	* column 4, line 10 - column 5, line 11 *	1, 6, 17-22	
Y	* column 5, line 33 - line 50 *		
Y	* column 8, line 46 - column 9, line 67 *	23-28	
Y	* figures 1-3 *		
Y	US 3 778 170 A (HOWELL ET AL) 11 December 1973 (1973-12-11) * column 2, line 53 - column 3, line 7 *	1, 6, 17-22	
A	* column 5, line 1 - line 61 *	1-3, 7, 8, 11, 12, 15, 23, 25, 26	
	* column 6, line 32 - line 64 *		
	* column 7, line 41 - line 56 *		
	* figure 2 *		
Y	US 4 485 398 A (CHAPIN, JR. ET AL) 27 November 1984 (1984-11-27) * column 4, line 35 - column 5, line 25 *	23-28	TECHNICAL FIELDS SEARCHED (Incl. 7)
A	* column 6, line 15 - line 34 *	1, 9, 27	H04N G02B H01L
	* column 10, line 62 - column 11, line 25 *		
	* figures 1, 2, 6 *		
A	US 5 956 077 A (QURESHI ET AL) 21 September 1999 (1999-09-21) * column 1, line 42 - column 2, line 18 *	1, 6, 9, 10, 15, 17, 23, 24	
	* column 2, line 41 - column 4, line 16 *		
	* figures 1-9 *		
-/-			
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search Munich		Date of completion of the search 25 May 2005	Examiner Fragua, M
CATEGORY OF CITED DOCUMENTS X: particularly relevant if alone alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: earlier patent document, but published on, or after, the filing date D: document cited in the application L: document cited for other reasons A: member of the same patent family, corresponding document			

EP 02 70 3248 (05-05-06)



European Patent
Office

**SUPPLEMENTARY
EUROPEAN SEARCH REPORT**

Application Number
EP 02 70 3248

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Inventor)
A	<p>GB 1 042 179 A (COMPAGNIE FRANCAISE THOMSON-HOUSTON) 14 September 1966 (1966-09-14)</p> <p>* page 1, line 9 - line 25 * * page 1, line 69 - line 85 * * page 2, line 26 - line 48 * * page 2, line 61 - line 69 * * page 2, line 90 - line 124 * * page 3, line 1 - line 25 * * page 3, line 37 - line 73 * * page 4, line 5 - line 10 * * figures 1,2 *</p>	<p>1-4, 8-12, 16-19, 22,23, 25,26</p>	
			TECHNICAL FIELDS SEARCHED (Inventor)
<p>The supplementary search report has been based on the last set of claims valid and available at the start of the search.</p>			
Place of search		Date of completion of the search	Examiner
Munich		25 May 2005	Fragua, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document</p>			

1
EPO FORM 1500 (01/01/00) (P.01/00)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 70 3248

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-05-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5604532	A	18-02-1997	NONE
US 3778170	A	11-12-1973	NONE
US 4485398	A	27-11-1984	NONE
US 5956077	A	21-09-1999	US 5757419 A 26-05-1998 CA 2223218 A1 02-06-1998
GB 1042179	A	14-09-1966	FR 1342212 A 08-11-1963 BE 637300 A CH 407210 A 15-02-1966 DE 1451068 A1 20-02-1969 SE 302629 B 29-07-1968

EPOFORM P449

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON THE DATE INDICATED BELOW.

By: James P. Gustin Date: 9/6/05

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:
Michael J. Pollack

Conf. No.: 3856

: Group Art Unit: 2613

Appln. No.: 10/058,658

: Examiner: Richard J. Lee

Filing Date: January 28, 2002

: Attorney Docket No.: G0623-670U1

Title: MONITORING SYSTEM FOR HOSTILE ENVIRONMENT

STATEMENT UNDER 37 C.F.R. § 3.73(b)

Greene, Tweed of Delaware, Inc., and Three E Laboratories, Inc. corporations state that they are the assignees of the entire right, title, and interest in the above-identified patent or patent application by virtue of an assignment from the inventor(s) in the above-identified patent application/patent. The assignment was recorded in the United States Patent and Trademark Office (PTO) at Reel 012547, Frame 0578.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignees in accordance with the attached Powers of Attorney to Prosecute Applications Before the U.S. PTO.

Please address all correspondence to Customer No. 000054380, namely,
FLASTER/GREENBERG, P.C., 1810 Chapel Avenue West, Cherry Hill NJ 08002. Please
direct all communications and telephone calls to Lynda Calderone at (856) 382-2206 (telephone)
or (856) 661-1919 (facsimile).

Respectfully submitted,

Greene, Tweed of Delaware, Inc. and Three E
Laboratories, Inc.

(Date)

9/6/05

By:


LYNDA CALDERONE, Shareholder and Attorney
for Greene, Tweed of Delaware, Inc. and Three E
Laboratories, Inc.

Registration No. 35,837

FLASTER/GREENBERG P.C.

Commerce Center

1810 Chapel Avenue West

Cherry Hill, NJ 08002

Telephone: 856-661-1900

Direct Dial: 856-382-2206

Facsimile: 856-661-1919

E-Mail: Lynda.Calderone@flastergreenberg.com

LLC:ssf

Encl: Powers of Attorney (2) to Prosecute Applications Before the PTO

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON THE DATE INDICATED BELOW.

By: Lisa J. Cuth Date: 9/6/05

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Applications of
Three E Laboratories, Inc.
840 W. Main Street
Lansdale, PA 19446

**POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE U.S.
PATENT AND TRADEMARK OFFICE**

Three E Laboratories, Inc., assignee of the above application, by its undersigned representative, hereby revokes all previous powers of attorney given in the application identified in the enclosed Statement Under 37 C.F.R. §3.73(b).

Three E Laboratories, Inc., by its undersigned representative, hereby appoints the registered attorneys and agents associated with Customer No. 000054380, Flaster/Greenberg, P.C., as its attorneys or agents to represent the assignee before the United States Patent and Trademark Office (U.S. PTO) in connection with any and all patent applications assigned only to the undersigned according to the U.S. PTO assignment records or assignment documents attached to this form and/or to the enclosed Statement Under 37 C.F.R. §3.73(b) and in accordance therewith, with full power of substitution and revocation, to prosecute the application identified in the enclosed Statement Under 37 C.F.R. § 3.73(b) and to transact all business in the U.S. PTO connected therewith.

Please change the correspondence address for the application identified in the enclosed Statement Under 3.73(b) to the address associated with Customer No. 000054380, namely, FLASTER/GREENBERG, P.C., 1810 Chapel Avenue West, Cherry Hill NJ 08002. Please direct all communications and telephone calls to Lynda Calderone at (856) 382-2206 (telephone) or (856) 661-1919 (facsimile).

The undersigned states that he/she is authorized to sign the document on behalf of the assignee of the above application, and he/she certifies that, to the best of assignee's knowledge

and belief, title to the above application is in assignee by virtue of the documents provided
and/or referenced in the enclosed Statement Under 37 C.F.R. §3.73(b).

09/04/05
Date

Respectfully submitted,
Three B Laboratories, Inc.
By: Michael J. Pollack
Name: Michael J. Pollack
Title: President
Telephone: (215) 256-9521

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON THE DATE INDICATED BELOW.

BY: *Ann 2 Linto*Date: *9/6/05*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Applications of: :
Greene, Tweed of Delaware, Inc. :
1105 North Market Street :
Suite 1300 :
Wilmington, DE 19889 :

**POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE U.S.
PATENT AND TRADEMARK OFFICE**

Greene, Tweed of Delaware, Inc. assignee of the above application, by its undersigned representative, hereby revokes all previous powers of attorney given in the application identified in the enclosed Statement Under 37 C.F.R. §3.73(b).

Greene, Tweed of Delaware, Inc. by its undersigned representative, hereby appoints the registered attorneys and agents associated with Customer No. 000054380, Flaster/Greenberg, P.C., as its attorneys or agents to represent the assignee before the United States Patent and Trademark Office (U.S. PTO) in connection with any and all patent applications assigned only to the undersigned according to the U.S. PTO assignment records or assignment documents attached to this form and/or to the enclosed Statement Under 37 C.F.R. §3.73(b) and in accordance therewith, with full power of substitution and revocation, to prosecute the application identified in the enclosed Statement Under 37 C.F.R. § 3.73(b) and to transact all business in the U.S. PTO connected therewith.

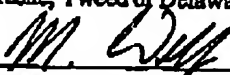
Please change the correspondence address for the application identified in the enclosed Statement Under 3.73(b) to the address associated with Customer No. 000054380, namely, FLASTER/GREENBERG, P.C., 1810 Chapel Avenue West, Cherry Hill NJ 08002. Please direct all communications and telephone calls to Lynda Calderone at (856) 382-2206 (telephone) or 856-661-1919 (facsimile).

The undersigned states that he/she is authorized to sign the document on behalf of the assignee of the above application, and he/she certifies that, to the best of assignee's knowledge and belief, title to the above application is in assignee by virtue of the documents provided and/or referenced in the enclosed Statement Under 37 C.F.R. §3.73(b).

Respectfully submitted,
Greene, Tweed of Delaware, Inc.

8/22/05
Date

By:


Name: Michael DeFiner
Title: Vice President
Telephone: 215-256-9521

ATTENTION ATTENTION ATTENTION

Method of Refund:

☐ ACH/EFT

☐ Credit Card

☒ Deposit Account # 50-3541

☐ Treasury Check

Patent/TM/App/Serial # 10,058,658

Program Area TreehCenter 2613

Date Processed 02-24-06

ATTENTION ATTENTION ATTENTION

BEST AVAILABLE COPY